



ӘЛ-ФАРАБИ АТЫНДАҒЫ ҚАЗАҚ ҰЛТТЫҚ УНИВЕРСИТЕТІ
КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ УНИВЕРСИТЕТ ИМ. АЛЬ-ФАРАБИ
AL-FARABI KAZAKH NATIONAL UNIVERSITY

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УНИВЕРСИТЕТ НЬЮКАСЛА (ВЕЛИКОБРИТАНИЯ)
NEWCASTLE UNIVERSITY (UK)

«ОҚЫТУДЫҢ БЕЛСЕНДІ ӘДІСТЕРІ»

халықаралық ғылыми-тәжірибелік
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PROGRAMMING WEB COURSES FOR NEWBIES (MINI-MOOC)

The main idea of the report is to give practical skills for newbies in programming in popular languages, such as R, Python, Java, JavaScript, C# (C sharp). The purpose of the report is to give the reader some information about the creation of an accessible and convenient site for studying and practical application of popular programming languages. According to this report, it is suggested first to study the P language, since it is a convenient tool for analyzing statistical data, which is relevant by now; next, the language of the python is proposed for study, since it is also a simple and actual programming language. Third and fourth languages for study are the languages of Java and JavaScript, which remain popular all over the world. The last language recommended by us is C# (C sharp), which continues to hold its positions for a long time, which deserves special attention.

There was a time when programming seemed to us something fabulous and unattainable. Today the situation is different, there are many different programming languages available for study, there are many platforms and sites for learning programming languages. But not always these platforms and sites are available for learning the language. Often it is quite difficult for an inexperienced user to understand the specifics of the language and immediately start programming in that language. We, as graduates of this university and future masters, understand how difficult this is. Therefore, we offer a free and accessible study of popular programming languages, such as R, Python, Java, Javascript. The uniqueness of this work is that these languages will be available even for inexperienced users who do not know the specifics of the language and those who have never programmed in this language. We offer to study these languages easily, while practicing the examples and tasks directly on the site.

As the first language for learning, we offer a language R.

R is a statistics-oriented language. It can be regarded as a competitor for serious analytical systems. One of the advantages of R language is that many new developments in the statistics field usually appears in the R platform ("R-packages") and only then come to commercial platforms. Also use the language R can be completely free. R is a powerful scripting language and supports Perl-like regular expressions for text processing. It also has a number of other positive qualities. Thus, the study of the language R extends the possibilities for analyzing statistical data.

We decided to include the programming language R in the courses, since it is a convenient tool for analyzing statistical data. This course will contain easy practical tasks, this will help the learner to quickly learn the tools of the language. [1]. The level of tasks will increase during the course. Thus, the student at the end of the course will learn to work with the basic language tools that will be useful in analyzing any data.

Our second language is Python.

Python is a scripting language developed by Guido van Rossum as a simple language, easy to learn for a beginner.

In our time, Python is a widely spoken language that is used in many areas:

Development of application software

Web application development

Use as embedded scripting language in many games, and not only (in the office package OpenOffice.org, 3d editor Blender, DBMS Postgre)

Use in scientific calculations

And this is certainly not a complete list of projects using this wonderful language.

The main goal of the course is the formation of basic concepts of structural programming, the development of logic students. We want to show that learning a python isn't only interesting, but also easy.

As a third language for learning, we offer Java.

Java is an object-oriented programming language that is used to write applets, applications, and server software. The Java language is a platform-independent programming language that allows you to create programs that do not need to be written separately for each architecture and can be used on different processors in different operating systems. Java is one the most widespread programming language and it has many software products that is written by developers at this time.

The lessons of java devoted to acquire new skills, so that students can advance their knowledge. The quality of lessons is giving detailed explanation by demonstrating existed project. As a result, students should use all of the awareness to develop their projects.

It is logically understood that the next language for studying correctly will be the language JavaScript.

JavaScript is a multi-paradigm programming language that supports object-oriented, imperative, and functional styles. JavaScript was originally created in order to make web-pages "alive". Programs in this language are called scripts. In the browser, they connect directly to HTML and, as soon as the page is loaded - immediately executed.

We chose the JavaScript language as the language for processing events in interactive sites. The peculiarity of this course is that the course emphasizes the video-tutorials. This method is similar to brainstorming, but differs in that the process of discussion is limited to specific frameworks and any decisions and ideas that initially seem hopeless are discarded. The advantages of the method are the fact that the information base of students on the discipline under discussion expands and the ability to solve specific problems is formed.

As the last language for study, we offer C#.

C # is an object-oriented, highly typed language that allows developers to create various applications that run on the .NET Framework. C # can be used to create Windows client applications, XML Web services, distributed components, client-server applications, database applications, and more. The syntax of C # is very rich, but it is simple and convenient to learn. C # supports generic methods and types that provide a higher level of security and performance, as well as iterators that allow you to define in the collection classes your own iteration behavior that can easily be applied to the client code.

We chose this C# language, because it is very popular programming language. In this course, we create project, that uses databases and internet technologies ASP.NET. On a base this project we consider using frequently using data structures and mechanisms. In the end you can get software, which you can use in a base in your future works or get necessary functional parts to your project.

For the implementation of the web service, the MVS model and the database were used NOSQL. MVC is the most popular programming pattern. Almost all programs use the ideology of MVC. The ideology of this pattern is that all data is divided into parts model, controller and view. The models store the name of the data, the logic of the database. The controller writes the main logic of the application or the site. A view is directly a visual component, that is, the client part of the product.

The database uses new technology for processing large data - NoSQL. The database stores data courses, questions, images, etc. Since the document oriented database makes it possible to store all types of files at once directly in the database, without having to change the structure of the database.

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